CLAIMS

What is claimed is:

1.   An electronic device network, the network comprising:

a plurality of servers; and

a plurality of an electronic devices communicatively coupled to at least one of the plurality of servers, the electronic devices being adapted to employ at least one of a plurality of update agents resident in the electronic devices to update one of software and firmware in the electronic devices, wherein the electronic devices are also adapted to provision the plurality of update agents with parameters and data used to facilitate update operations in the electronic device.

2.   The network according to claim 1, wherein the electronic device comprises random access memory and non-volatile memory, wherein the non-volatile memory comprises a plurality of components, the plurality of components comprising at least one of an update application loader, the plurality of update agents, firmware, an operating system (OS), and provisioned data, wherein the provisioned data comprises update agent provisioning information and a number assignment module.

3.   The network according to claim 1, wherein the network further comprises at least one of an update server, and a plurality of generators, wherein the generators are adapted to generate updates able to be processed by at least one provisioned update agent in the electronic device, and wherein the update server is adapted to store updates accessible by the plurality of servers.

4.   The network according to claim 1, wherein the electronic device further comprises a provisioned data unit adapted to store information related to an end-user's electronic device subscription, wherein the provisioned data unit may be programmed during number assignment module programming activity.

5.   The network according to claim 4, wherein the number assignment module programming activity comprises at least one of over-the-air service provisioning (OTASP) activity and over-the-air parameter administration (OTAPA) activity.

6. The network according to claim 4, wherein the provisioned data unit is adapted to store at least one of update agent related provisioning information, a universal resource locator of a server used to retrieve updates, and a security key used to authenticate server messages.

7. The network according to claim 4, wherein each of the plurality of update agents has a corresponding entry in the provisioned data unit.

8. The network according to claim 1, wherein one of the plurality of update agents is designated a primary update agent and another of the plurality of update agents is designated as a secondary update agent, wherein the primary update agent is used to perform updates during one of power up and reboot of the electronic device and the secondary update agent is used to perform updates not requiring electronic device rebooting.

9. The network according to claim 1, wherein the electronic device is adapted to display a list of available update agents to an end-user and solicit selection of an update agent to be used to update at least one of software and firmware.

10. The network according to claim 1, wherein the electronic device is adapted to invoke an update agent based upon an update currently being processed provided that the update agent is provisioned in the mobile handset.

11. The network according to claim 1, wherein the electronic device may execute an update application loader on reboot, wherein the update application loader is adapted to invoke a boot initialization code before determining to update the electronic device.

12. The network according to claim 1, further comprising update agent provisioning information stored in the electronic device, the update agent provisioning information comprising at least one of a device server URL, an index of provisioned update agents, a security key, and electronic device related information, wherein the device server URL provides references to servers hosting updates to be downloaded, wherein the update are compatible with update agents currently available and provisioned in the electronic device.

13. The network according to claim 12, wherein the index of provisioned update agents provides an index value used to compute an address location of a provisioned update agent, and wherein the index of provisioned update agents provides an index to a table containing an address for an update agent in non-volatile memory the electronic device.

14. The network according to claim 12, wherein the security key is used to authenticate updates during download of updates and during update activity, wherein a separate security key is employed to authenticate updates by a download agent and by the update agent, and wherein the security key is employed for at least one of secure communication, encryption, and decryption of data and messages during communication with external systems.

15. The network according to claim 1, wherein the electronic device further comprises an update agent table resident in non-volatile memory, the update agent table containing references to a plurality of update agents currently available and provisioned in the electronic device, the update agent table associating update agent names, update agent address locations, types of updates that the update agents are adapted to process, and provisioning status of the update agents for all available update agents in the electronic device.

16. The network according to claim 1, wherein the electronic device comprises at least one of a plurality of mobile electronic devices, and wherein the plurality of mobile electronic devices comprise at least one of a mobile cellular phone handset, personal digital assistant, pager, MP3 player, and a digital camera.

17. A method employing a plurality of update agents in an electronic device in an electronic device network, the method comprising:

communicatively coupling a plurality of an electronic devices to at least one of the plurality of servers;

employing at least one of a plurality of update agents resident in the electronic devices to update one of software and firmware in the electronic devices; and

provisioning the plurality of update agents with parameters and data used to facilitate update operations in the electronic device.

18. The method according to claim 17, further comprising generating updates able to be processed by at least one provisioned update agent in the electronic device and storing updates in an update server.

19. The method according to claim 17, further comprising:

storing information related to an end-user's electronic device subscription; and

programming a provisioned data unit during number assignment module programming activity.

20. The method according to claim 19, wherein the number assignment module programming activity comprises at least one of over-the-air service provisioning (OTASP) activity and over-the-air parameter administration (OTAPA) activity.

21. The method according to claim 19, wherein the programming further comprises storing update agent related provisioning information, a universal resource locator of a server used to retrieve updates, and a security key used to authenticate server messages.

22. The method according to claim 19, further comprising providing each update agent an entry in a provisioned data unit.

23. The method according to claim 17, further comprising:

designating a primary update agent and a secondary update agent;

using the primary update agent to perform updates during one of power up and reboot of the electronic device; and

using the secondary update agent to perform updates not requiring electronic device rebooting.

24. The method according to claim 17, further comprising:

displaying a list of available update agents to an end-user; and

soliciting selection of an update agent to be used to update at least one of software and firmware.

25. The method according to claim 17, further comprising invoking an update agent based upon an update currently being processed provided that the update agent is provisioned in the mobile handset.

26. The method according to claim 17, further comprising executing an update application loader on reboot of the electronic device and invoking a boot initialization code before determining to update the electronic device.

27. The method according to claim 17, further comprising:

storing update agent provisioning information in the electronic device; and

hosting updates to be downloaded with update agents provisioned in the electronic device.

28. The method according to claim 17, further comprising determining an address location of a provisioned update agent, wherein determining comprises one of computing and accessing an entry in a table.

29.   The method according to claim 17, further comprising:

authenticating updates during download of the updates and during update activity using a security key;

employing a separate security key to authenticate updates by a download agent and by the update agent; and

employing the security key for at least one of secure communication, encryption, and decryption of data and messages during communication with external systems.

30.   The method according to claim 17, further comprising mapping at least one of update agent names, update agent address locations, types of updates that the update agents are adapted to process, and provisioning status of the update agents for all available update agents in the electronic device.

31.   The method according to claim 17, wherein the electronic device comprises at least one of a plurality of mobile electronic devices, and wherein the plurality of mobile electronic devices comprise at least one of a mobile cellular phone handset, personal digital assistant, pager, MP3 player, and a digital camera.